

REMARKS

Claims 11-24 are pending in this application. By this Amendment the features of claim 24 have been incorporated into claim 1. Claim 24 has been canceled without prejudice or disclaimer. Entry and consideration of this amendment is earnestly requested in that it does not introduce new matter. An Information Disclosure Statement is included with this Response. Applicants respectfully request the Examiner to review the references on the accompanying PTO-1449 form and make them of record herein.

Claim Rejections

A. Response to rejection of claims 11-24 under 35 U.S.C. §103(a) as being unpatentable over Promel et al. in view of Job et al.

In response to the rejection of claims 11-24 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,225,421 of Promel et al. ("Promel") in view of U.S. Patent Application Publication 2002/0128401 of Job et al. ("Job"), Applicants respectfully submit that a *prima facie* case of Obviousness has not been made out, and traverse the Rejection.

The U.S. Supreme Court in *Graham v. John Deere Co.*, 148 U.S.P.Q. 459 (1966) held that non-obviousness was determined under §103 by (1) determining the scope and content of the prior art; (2) ascertaining the differences between the prior art and the claims at issue; (3) resolving the level of ordinary skill in the art; and, (4) inquiring as to any objective evidence of non-obviousness. Accordingly, for the Examiner to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. See MPEP §2143. Finally, all claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. (BNA) 580 (C.C.P.A. 1974).

First, as acknowledged by the Examiner, Promel do not specifically disclose cooling of the compressed off-gases, instead using a distillation column to separate the compressed gaseous mixture into liquid and gas and recycling to the reactor. However, the Examiner then seeks to remedy the deficiencies of Promel by applying Job. The Examiner argues that Job's paragraph [0076] teaches the cooling step.

A stream containing unreacted monomer is withdrawn from the reactor continuously, compressed, cooled, optionally fully or partially condensed as disclosed in U.S. Pat. Nos. 4,528,790 and 5,462,999, and recycled to the reactor. (paragraph [0076], lines 12-16)

The Examiner then concludes that this paragraph teaches a gas scrubber.

This indicates that the cooling is conducted by an appropriate device, including in a gas scrubber as claimed. (Office Action, page 5)

However, the Examiner's conclusion is not consistent with the teachings of either Promel or Job.

A proper analysis under § 103 requires, *inter alia*, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success" (emphasis added). *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991) Neither are present in the current Rejection.

First, Job refers to U.S. Patent No. 5,462,999 of Griffin et al. ("Griffin") as exemplifying the cooling of a stream containing unreacted monomer. However, Griffin refers to a conventional heat exchanger:

The recycle stream 16 once withdrawn from the reactor above the freeboard zone 14 is then compressed in compressor 28 and passes through the heat exchanger 26, where heat generated by the polymerization reaction and gas compression are removed from the recycle stream 16 before returning the recycle stream 16 back to the reaction zone 12 in the reactor 10. The heat exchanger 26 is conventional in type and can be placed within the recycle stream line 16 in either a vertical or horizontal position. (col. 9, lines 47-55)

Griffin therefore teaches conventional heat exchangers where the heat-transfer is indirect and the fluid to be cooled and the cooling stream are segregated; not the use of a water scrubber as in the present claims.

Second, Promel's distillation column includes an intermediate draw off, i.e., ethylene and hydrogen are being taken off the top of the column, isobutane and hexene off the bottom, and

isobutane devoid of hexene withdrawn from an intermediate plate (col. 5, lines 33-37). To alter Promel's teaching to arrive at the current claims would require eliminating the recovery of the purified isobutane material from the intermediate draw off point. This would render Promel unsatisfactory for its intended purpose, since it would prevent the isobutane-hexene mixture from being recycled to a subsequent polymerization reactor and the isobutane devoid of hexene being recycled to the first reactor. (col. 5, lines 37-40). It is well-settled that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Third, one skilled in the art would not look to use a scrubber in a process such as that claimed. Gas scrubbers are mainly used in chemical processes for purifying gaseous streams, such as industrial exhaust streams. Cooling with a gas scrubber is, however, unusual, and furthermore, also not appropriate for cooling recycle gases in a fluidized bed reactor ("FBR"). An FBR is operated by passing a stream containing one or more olefin monomers continuously through the FBR under reaction conditions and in the presence of catalyst composition at a velocity sufficient to maintain a bed of solid particles in a fluidized condition. A stream containing unreacted monomer is withdrawn from the reactor continuously, compressed, cooled, optionally fully or partially condensed, and recycled to the reactor. Furthermore, the recycle stream is also used to remove the heat of polymerization from the reactor. Accordingly, the volume stream of the recycle gas has to be sufficiently high to be able to maintain the bed of solid particles in the fluidized condition and to remove the heat of polymerization from the reactor. That means, high volumes of gas are circulated. A gas scrubber is not suited to cool such high volume streams, which necessarily have a high velocity, since the obtained droplets would just be blown away. There would thus be no reasonable expectation of success in modifying Brita to arrive at the current claims, since the absence of predictability in the changes suggested by the Examiner to arrive at the current claims "does not present a finite (and small in the context of the art) number of options easily traversed to show obviousness." *Ortho-McNeil Pharmaceutical, Inc. v. Mylan Laboratories, Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008).

Reconsideration and withdrawal of the rejection respectfully is requested.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have questions or comments regarding this application or this Amendment, Applicants' attorney would welcome the opportunity to discuss the case with the Examiner.

The Commissioner is hereby authorized to charge U.S. PTO Deposit Account 08-2336 in the amount of any fee required for consideration of this Amendment.

Respectfully submitted,



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I hereby certify that this correspondence is being transmitted via the U.S. Patent and Trademark Office electronic filing system (EFS-Web) to the USPTO on December 17, 2010.



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